

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

951/49898

U.S. APPLICATION NO (if known, see 37 CFR 1.5)

09/868522

INTERNATIONAL APPLICATION NO. PCT/EP99/08989

INTERNATIONAL FILING DATE 22 November 1999

PRIORITY DATE CLAIMED 19 December 1998

TITLE OF INVENTION MOTOR VEHICLE AUDIO SYSTEM

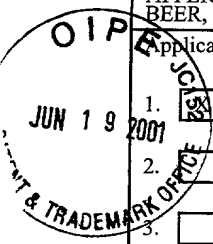
APPLICANT(S) FOR DO/EO/US BEER, Rainer and GROM, Alfred

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

- 1. [X] This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.
2. [] This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371
3. [] This express request to begin national examination procedures (35 U.S.C. 371(f) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. [X] A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. [X] A copy of the International Application as filed (35 U.S.C. 371(c)(2)).
a. [] is transmitted herewith (required only if not transmitted by the International Bureau).
b. [X] has been transmitted by the International Bureau
c. [] is not required, as the application was filed in the United States Receiving Office (RO/US)
6. [X] A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. [] Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
a. [] are transmitted herewith (required only if not transmitted by the International Bureau).
b. [] have been transmitted by the International Bureau.
c. [] have not been made; however, the time limit for making such amendments has NOT expired.
d. [] have not been made and will not be made.
8. [] A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. [X] An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). (Unexecuted) (Two pages)
10. [] A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Item 11. to 16. below concern other document(s) or information included:

- 11. [X] An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. [] An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. [X] A FIRST preliminary amendment.
[] A SECOND or SUBSEQUENT preliminary amendment.
14. [X] A substitute specification.
15. [] A change of power of attorney and/or address letter.
16. [X] Other items or information:
a. Form PCT/IB/301; b. One sheet drawing; c. International PCT Search Report (with trans.) d. German Search Report (with trans.)
e. Form PCT/IB/308



Patent & Trademark Office



23911

PATENT TRADEMARK OFFICE

U.S. APPLICATION NO. (if known, see 37 CFR 1.5) 09/868522		INTERNATIONAL APPLICATION NO PCT/EP99/08989		ATTORNEY'S DOCKET NUMBER 951/49898	
17. <input type="checkbox"/> The following fees are submitted: Basic National Fee (37 CFR 1.492(a)(1)-(5)): Search Report has been prepared by the EPO or JPO \$860.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) \$690.00 No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)) \$710.00 Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37CFR 1.445(a)(2) paid to USPTO \$ 1000.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) \$100.00 ENTER APPROPRIATE BASIC FEE AMOUNT =				CALCULATIONS PTO USE ONLY	
				\$860.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$130.00	
Claims	Number Filed	Number Extra	Rate		
Total Claims	2- 20 =	0	X \$18.00	\$0.00	
Independent Claims	1- 3 =		X \$80.00	\$0.00	
Multiple dependent claims(s) (if applicable)			+ \$270.00	\$	
TOTAL OF ABOVE CALCULATIONS =				\$990.00	
Applicant claims Small Entity Status (See 37 CFR §1.27) <input type="checkbox"/> yes <input type="checkbox"/> no.				\$	
Reduction by 1/2 for filing by small entity, if applicable.					
SUBTOTAL =				\$990.00	
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	
TOTAL NATIONAL FEE =				\$990.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28,3.31). \$40.00 per property +				\$	
TOTAL FEE ENCLOSED =				\$990.00	
				Amount to be: \$	
				refunded	
				charged \$	

- a. One checks in the amount of \$ 990.00 for the filing fee is enclosed.
- b. Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.
- c. The Commissioner is hereby authorized to charge any additional fees, which may be required, or credit any overpayment to Deposit Account No. 05-1323. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:
 Crowell & Moring, L.L.P.
 P.O. Box 14300
 Washington, D.C. 20044-4300
 Tel. No. (202) 628-8800
 Fax No. (202) 628-8844

Donald D. Evenson

SIGNATURE
 Donald D. Evenson
 NAME
 26,160
 REGISTRATION NUMBER
 June 19, 2001
 DATE

09/868522

JG18 Rec'd PCT/PTO 19 JUN 2001

Attorney Docket: 951/49898
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: RAINER BEER ET AL.

Serial No.: To Be Assigned Group Art Unit:

Filed: Herewith Examiner:

Title: MOTOR VEHICLE AUDIO SYSTEM

PRELIMINARY AMENDMENT

Box PCT PATENT APPLICATION

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination and calculation of fees, please preliminarily amend the above identified application, filed herewith as follows:

IN THE SPECIFICATION:

An English language translation of PCT/EP99/08989 filed 22 November 1999 along with a Marked-up Version to show changes made and a Clean Version Substitute Specification is enclosed herewith.

IN THE CLAIMS:

Please cancel the originally filed claims in their entirety and substitute the following new claims therefor.

3. Motor vehicle audio system comprising an audio signal receiver, at least one amplifier connected thereto by way of an optical waveguide, and a loudspeaker,

wherein a separate amplifier is provided for low audio frequencies, which separate amplifier is supplied with a significantly higher operating voltage than the at least one amplifier for other audio frequencies.

4. Motor vehicle audio system according to Claim 1,

wherein the operating voltage of the separate amplifier is at least equal to 42 volt in comparison to 12 volt for the at least one amplifier of the other audio frequencies.

5. A motor vehicle audio system comprising:

an audio signal receiver,

a first amplifier connected by an optical wave guide with the receiver,

a second amplifier connected by another optical wave guide with the receiver,

at least one low frequency speaker connected to an output of said first amplifier, and

at least one higher frequency speaker connected to an output of said second amplifier,

wherein said first and second amplifiers are supplied with respective substantially different operating voltage.

6. A motor vehicle audio system according to claim 3, wherein said first amplifier is supplied with a substantially higher voltage than is supplied to the second amplifier.

7. A motor vehicle audio system according to claim 4, wherein said first amplifier is supplied with more than twice the voltage supplied to the second amplifier.

IN THE ABSTRACT:

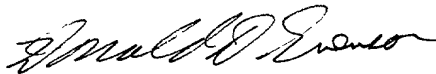
Please add the Abstract of the Disclosure as attached on a separate sheet herewith.

REMARKS

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #951/49898).

Respectfully submitted,



Donald D. Evenson
Registration No. 26,160

DDE:mkh
CROWELL & MORING, LLP
P.O. Box 14300
Washington, DC 20044-4300
Telephone No.: (202) 628-8800
Facsimile No.: (202) 628-8844

ABSTRACT OF THE DISCLOSURE

A motor vehicle audio system comprising an audio signal receiver, an amplifier connected thereto via a fiber optic cable and a loudspeaker. A separate amplifier is provided fo low audio signals. Said amplifier is provided with a substantially higher line voltage when compared with the other audio frequency amplifiers.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Clean Version Substitute Specification
of PCT EP99/08989
Filed November 22, 1999

MOTOR VEHICLE AUDIO SYSTEM

BACKGROUND AND SUMMARY OF THE INVENTION

[001] The invention relates to a motor vehicle audio system comprising an audio signal receiver, at least one amplifier connected thereto by way of an optical waveguide, and a loudspeaker.

[002] A system of this type is known from European Patent Document EP 0 027 043 B (corresponding U.S. Patent No. 4,282,605). Such an audio system is operated by means of an operating voltage which is equal to the normal onboard power supply voltage of preferably 12 volt. In the case of loudspeakers with a resistance of 8 Ω , particularly in the case of powerful amplifiers, a distortion factor occurs which is also clearly noticeable acoustically and which impairs the listening enjoyment. If, on the other hand, a higher operating voltage is to be used for the amplifiers in order to avoid the harmonic distortion, the interferences, which necessarily occur in the onboard power supply and which also occur on the supply lines of the amplifiers, result in clearly audible clicks and plops.

[003] It is an object of the invention to provide an audio system of the initially mentioned type which permits an undisturbed listening enjoyment.

[004] The invention achieves this object by providing an audio system of the type referred to above, wherein a separate amplifier is supplied with a significantly higher operating voltage than the at least one amplifier for other audio frequencies.

[005] The invention provides a separation of the audio signals of the bass range and a separate amplification therefor. The high operating voltage is used only for supplying the separate amplifier. In addition, the use of two independent amplifiers can also be provided for the medium/high frequency range.

[006] The amplifier of the bass range receives a supply voltage of preferably 42 volt, while the medium/high frequency range is supplied with, for example, 12 volt.

[007] Occurring electric interferences do not affect the bass range because they have significantly higher frequencies. The use of a supply voltage of 42 V therefore results in a high power yield in the low-bass range while simultaneously acoustic interferences cannot be perceived. In contrast, such a high

power yield is not required for the medium/high frequency range. The use of amplifiers with 12V permits a sufficient power yield. The power required for the medium/high frequency range can and will clearly be lower than for the bass range.

[008] The invention will be further explained by means of the drawing.

BRIEF DESCRIPTION OF THE DRAWING

[009] The single drawing figure is a schematic top view of an automobile with an audio system constructed according to a preferred embodiment of the invention.

DETAILED DESCRIPTION OF THE DRAWING

[010] The only figure is a top view of the systematic construction of an audio system according to the invention. An audio signal receiver (radio) 1 is connected with amplifiers 5 and 6 by way of optical waveguides 2 to 4. At least one of the optical waveguides 2 to 4 is a component of a (ring) bus system.

[011] At the beginning and the end of each of the optical waveguides, an electro-optical or opto-electrical transducer is situated which transforms the incoming electrical or optical signals into corresponding optical or electrical signals.

[011] Subwoofers 7 and 8 for the playback of deep audio frequencies are connected to the output side of the amplifier 5, and medium/high frequency speakers 9 and 10 for the playback of the correspondingly remaining audio frequencies are connected to the output side of the amplifier 6.

[012] According to the invention, the amplifier 5 is supplied with an operating voltage of 42V and the amplifier 6 is supplied with an operating voltage of 12V.

[013] As a result of the galvanic separation of the radio 1 and the amplifiers 5 and 6, electrical interferences, which occur mainly in but also outside the vehicle, are not transmitted to the amplifiers 5 and 6. By means of the amplifier 5, a high power yield can be obtained. Since, as a result, only deep frequencies are amplified and played back by way of the loudspeakers 7 and 8, occurring high-frequency interferences are not noticeable acoustically.

[014] The medium/high frequency speakers 9 and 10 are supplied with a lower operating voltage of 12V. The thus achievable power yield of, for example, 20W, is sufficient also in cases in which the subwoofers 7 and 8 are acted upon by a high power of, for example, 100W. As a result of the lower power requirement, the distortion factor can therefore be minimized.

Marked-Up Version of PCT EP99/08989
Filed November 22, 1999

MOTOR VEHICLE AUDIO SYSTEM

BACKGROUND AND SUMMARY OF THE INVENTION

The invention relates to a motor vehicle audio system [having the characteristics of the preamble of Claim 1] comprising an audio signal receiver, at least one amplifier connected thereto by way of an optical waveguide, and a loudspeaker.

A system of this type is known from European Patent Document EP 0 027 043 B (corresponding U.S. Patent No. 4,282,605). Such an audio system is operated by means of an operating voltage which is equal to the normal onboard power supply voltage of preferably 12 volt. In the case of loudspeakers with a resistance of 8 Ω , particularly in the case of powerful amplifiers, a distortion factor occurs which is also clearly noticeable acoustically and which impairs the listening enjoyment. If, on the other hand, a higher operating voltage is to be used for the amplifiers in order to avoid the harmonic distortion, the interferences, which necessarily occur in the onboard power supply and which also occur on the supply lines of the amplifiers, result in clearly audible clicks and plops.

It is an object of the invention to provide an audio system of the initially mentioned type which permits an undisturbed listening enjoyment.

The invention achieves this object by [means of the characteristics of Claim 1] providing an audio system of the type referred to above, wherein a separate amplifier is supplied with a significantly higher operating voltage than the at least one amplifier for other audio frequencies.

The invention provides a separation of the audio signals of the bass range and a separate amplification therefor. The high operating voltage is used only for supplying the separate amplifier. In addition, the use of two independent amplifiers can also be provided for the medium/high frequency range.

The amplifier of the bass range receives a supply voltage of preferably 42 volt, while the medium/high frequency range is supplied with, for example, 12 volt.

Occurring electric interferences do not affect the bass range because they have significantly higher frequencies. The use of a supply voltage of 42 V therefore results in a high power yield in the low-bass range while simultaneously acoustic interferences cannot be perceived. In contrast, such a high power yield is not required for the medium/high frequency range.

The use of amplifiers with 12V permits a sufficient power yield. The power required for the medium/high frequency range can and will clearly be lower than for the bass range.

The invention will be further explained by means of the drawing.

BRIEF DESCRIPTION OF THE DRAWING

The single drawing figure is a schematic top view of an automobile with an audio system constructed according to a preferred embodiment of the invention.

DETAILED DESCRIPTION OF THE DRAWING

The only figure is a top view of the systematic construction of an audio system according to the invention. An audio signal receiver (radio) 1 is connected with amplifiers 5 and 6 by way of optical waveguides 2 to 4. At least one of the optical waveguides 2 to 4 is a component of a (ring) bus system.

At the beginning and the end of each of the optical waveguides, an electro-optical or opto-electrical transducer is situated which transforms the incoming electrical or optical signals into corresponding optical or electrical signals.

Subwoofers 7 and 8 for the playback of deep audio frequencies are connected to the output side of the amplifier 5, and medium/high frequency speakers 9 and 10 for the playback of the correspondingly remaining audio frequencies are connected to the output side of the amplifier 6.

According to the invention, the amplifier 5 is supplied with an operating voltage of 42V and the amplifier 6 is supplied with an operating voltage of 12V.

As a result of the galvanic separation of the radio 1 and the amplifiers 5 and 6, electrical interferences, which occur mainly in but also outside the vehicle, are not transmitted to the amplifiers 5 and 6. By means of the amplifier 5, a high power yield can be obtained. Since, as a result, only deep frequencies are amplified and played back by way of the loudspeakers 7 and 8, occurring high-frequency interferences are not noticeable acoustically.

The medium/high frequency speakers 9 and 10 are supplied with a lower operating voltage of 12V. The thus achievable power yield of, for example, 20W, is sufficient also in cases in which the subwoofers 7 and 8 are acted upon by a high power of, for example, 100W. As a result of the lower power requirement, the distortion factor can therefore be minimized.

11 PRTS

09/868522

JD:TD Rec'd PCT/PTO 19 JUN 2001

English Language Translation of PCT EP99/08989

Filed November 22, 1999

MOTOR VEHICLE AUDIO SYSTEM

The invention relates to a motor vehicle audio system having the characteristics of the preamble of Claim 1.

A system of this type is known from European Patent Document EP 0 027 043 B. Such an audio system is operated by means of an operating voltage which is equal to the normal onboard power supply voltage of preferably 12 volt. In the case of loudspeakers with a resistance of 8 Ω , particularly in the case of powerful amplifiers, a distortion factor occurs which is also clearly noticeable acoustically and which impairs the listening enjoyment. If, on the other hand, a higher operating voltage is to be used for the amplifiers in order to avoid the harmonic distortion, the interferences, which necessarily occur in the onboard power supply and which also occur on the supply lines of the amplifiers, result in clearly audible clicks and plops.

It is an object of the invention to provide an audio system of the initially mentioned type which permits an undisturbed listening enjoyment.

The invention achieves this object by means of the characteristics of Claim 1.

The invention provides a separation of the audio signals of the bass range and a separate amplification therefor. The high operating voltage is used only for supplying the separate amplifier. In addition, the use of two independent amplifiers can also be provided for the medium/high frequency range.

The amplifier of the bass range receives a supply voltage of preferably 42 volt, while the medium/high frequency range is supplied with, for example, 12 volt.

Occurring electric interferences do not affect the bass range because they have significantly higher frequencies. The use of a supply voltage of 42 V therefore results in a high power yield in the low-bass range while simultaneously acoustic interferences cannot be perceived. In contrast, such a high power yield is not required for the medium/high frequency range. The use of amplifiers with 12V permits a sufficient power yield. The power required for the medium/high frequency range can and will clearly be lower than for the bass range.

The invention will be further explained by means of the drawing.

The only figure is a top view of the systematic construction of an audio system according to the invention. An audio signal receiver (radio) 1 is connected with amplifiers 5 and 6 by way of optical waveguides 2 to 4. At least one of the optical waveguides 2 to 4 is a component of a (ring) bus system.

At the beginning and the end of each of the optical waveguides, an electro-optical or opto-electrical transducer is situated which transforms the incoming electrical or optical signals into corresponding optical or electrical signals.

Subwoofers 7 and 8 for the playback of deep audio frequencies are connected to the output side of the amplifier 5, and medium/high frequency speakers 9 and 10 for the playback of the correspondingly remaining audio frequencies are connected to the output side of the amplifier.

According to the invention, the amplifier 5 is supplied with an operating voltage of 42 V and the amplifier 6 is supplied with an operating voltage of 12 V.

As a result of the galvanic separation of the radio 1 and the amplifiers 5 and 6, electrical interferences, which occur mainly in but also outside the vehicle, are not transmitted to the amplifiers 5 and 6. By means of the amplifier 5, a high power yield can be obtained. Since, as a result, only deep

frequencies are amplified and played back by way of the loudspeakers 7 and 8, occurring high-frequency interferences are not noticeable acoustically.

The medium/high frequency speakers 9 and 10 are supplied with a lower operating voltage of 12V. The thus achievable power yield of, for example, 20W, is sufficient also in cases in which the subwoofers 7 and 8 are acted upon by a high power of, for example, 100 W. As a result of the lower power requirement, the distortion factor can therefore be minimized.

2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

CLAIMS:

1. Motor vehicle audio system comprising an audio signal receiver, an amplifier connected thereto by way of an optical waveguide, and a loudspeaker, characterized in that a separate amplifier is provided for low audio frequencies, which amplifier is supplied with a significantly higher operating voltage than the amplifier(s) for the other audio frequencies.

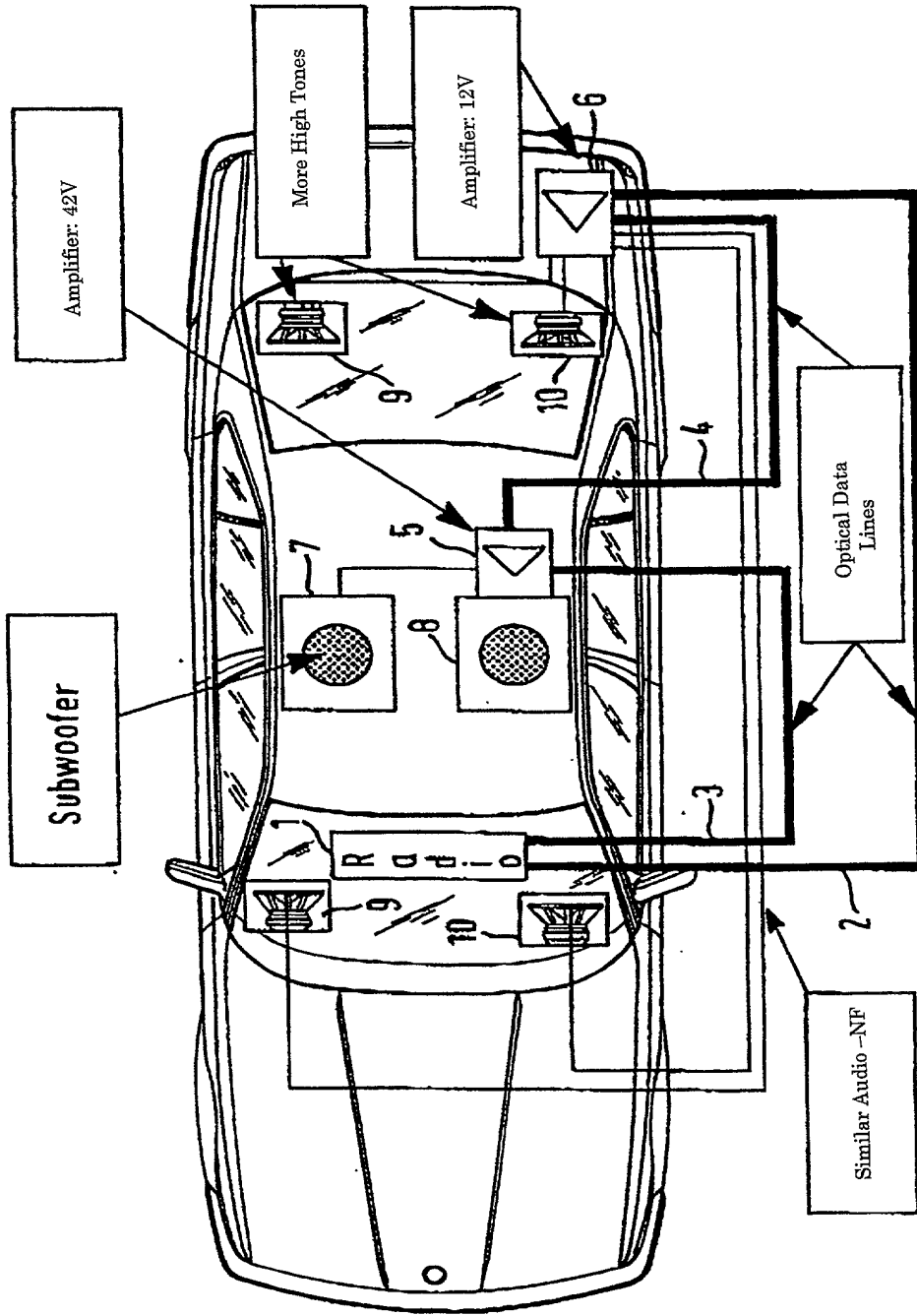
2. Motor vehicle audio system according to Claim 1, characterized in that the operating voltage of the separate amplifier is at least equal to 42 volt in comparison to 12 volt for the amplifier of the remaining audio frequencies.

Translation of Drawing:

| | |
|------------------------------|--------------------------------|
| Verstärker | amplifier |
| Mittel-/Hochtöner | medium/high frequency speakers |
| Analoge Audio-NF | analogous audio LF |
| Optische Audiodatenleitungen | optic audio data lines |

1968
P. 50
P. 51
P. 52
P. 53
P. 54
P. 55
P. 56
P. 57
P. 58
P. 59
P. 60
P. 61
P. 62
P. 63
P. 64
P. 65
P. 66
P. 67
P. 68
P. 69
P. 70
P. 71
P. 72
P. 73
P. 74
P. 75
P. 76
P. 77
P. 78
P. 79
P. 80
P. 81
P. 82
P. 83
P. 84
P. 85
P. 86
P. 87
P. 88
P. 89
P. 90
P. 91
P. 92
P. 93
P. 94
P. 95
P. 96
P. 97
P. 98
P. 99
P. 100

FIGURE 1



As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

MOTOR VEHICLE AUDIO SYSTEM

the specification of which (check only one item below):

is attached hereto.

was filed as United States application
Serial No. _____
on _____
and was amended
on _____ (if applicable).

was filed as PCT international application
Number PCT/EP99/08989
on 22 November 1999
and was amended under PCT Article 19
on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations. §1.56(a).

I hereby claim foreign priority benefits under Title 35, United State Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:

| COUNTRY
(if PCT indicate PCT) | APPLICATION NUMBER | DATE OF FILING
(day, month, year) | PRIORITY CLAIMED
UNDER 35 USC 119 |
|----------------------------------|--------------------|--------------------------------------|---|
| Germany | 198 58 836.4 | 19 December 1998 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application(s) and the national of PCT international filing date of this application:

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. 120

| U.S. APPLICATIONS | | STATUS (Check one) | | |
|-------------------------|------------------|--------------------|---------|-----------|
| U.S. APPLICATION NUMBER | U.S. FILING DATE | PATENTED | PENDING | ABANDONED |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |


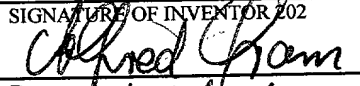
POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (List name and registration number)

Herbert I. Cantor, Reg. No. 24,392; James F. McKeown, Reg. No. 25,406; Donald D. Evenson, Reg. No. 26,160; Joseph D. Evans, Reg. No. 26,269; Gary R. Edwards, Reg. No. 31,824, and Jeffrey D. Sanok, Reg. No. 32,169

| | |
|--|---|
| Send Correspondence to:
Crowell & Moring, L.L.P.
P.O. Box 14300
Washington, D.C. 20044-4300 | Direct Telephone Calls to:
(name and telephone number)
(202) 628-8800 |
|--|---|

| | FULL NAME OF INVENTOR | FAMILY NAME | FIRST GIVEN NAME | SECOND GIVEN NAME |
|-----|-------------------------|--|-------------------------------------|-------------------------------------|
| 201 | | <u>BEER</u> | <u>Rainer</u> | |
| | RESIDENCE & CITIZENSHIP | CITY
D-80937 München DEX | STATE OR FOREIGN COUNTRY
GERMANY | COUNTRY OF CITIZENSHIP
GERMANY |
| | POST OFFICE ADDRESS | POST OFFICE ADDRESS
Franz-Metzner-Strasse 3 | CITY
D-80937 München | STATE & ZIP CODE/COUNTRY
GERMANY |
| 202 | | <u>GROM</u> | <u>Alfred</u> | |
| | RESIDENCE & CITIZENSHIP | CITY
D-85625 Glonn DEX | STATE OR FOREIGN COUNTRY
GERMANY | COUNTRY OF CITIZENSHIP
GERMANY |
| | POST OFFICE ADDRESS | POST OFFICE ADDRESS
Preysingstrasse 40 | CITY
D-85625 Glonn | STATE & ZIP CODE/COUNTRY
GERMANY |
| 203 | | | | |
| | RESIDENCE & CITIZENSHIP | CITY | STATE OR FOREIGN COUNTRY | COUNTRY OF CITIZENSHIP |
| | POST OFFICE ADDRESS | POST OFFICE ADDRESS | CITY | STATE & ZIP CODE/COUNTRY |

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

| | | |
|--|--|---------------------------|
| SIGNATURE OF INVENTOR 201
 | SIGNATURE OF INVENTOR 202
 | SIGNATURE OF INVENTOR 203 |
| DATE
<u>11/06/01</u> | Date
<u>11/06/01</u> | DATE |